PROCESSING COPY

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

25X1

COUNTRY East Germany

SUBJECT Transistor Development in East Germany

REPORT

DATE DISTR. 7 APR 1958

NO. PAGES 6

REFERENCES

DATE OF INFO.

PLACE & DATE ACQ

25X1

30 APR 1958

25X1

SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE

30 APR 1958 1 MAY 1958

SCOM

The following describes the development of transistors in East German installations:

1. Development and Production Centers

The central and leading concern of the entire transistor development program in East Germany is VEB Werk fuer Fernmeldewesen (Oberspreewerk), Berlin-Oberschoeneweide, Ostendstrasse 15. In addition, the two RFT plants, RFT Labor of VEB Funkwerk Erfurt, Rudolfstrasse 47, Erfurt, and VEB Carl von Ossietzky, Berlin-Teltow, are engaged in transistor development.

2. Completed Transistor Development

The following table shows all transistor types whose development has been completed and therefore are ready for production.

a. The group numbers indicate the various transistor types. It is planned to replace the group number with type designations.

b. The technical operational ratings are indicated as maximum ratings (maximale Grenzwerte).

25X1

S-E-C-R-E-T

STATE	ARMY	NAVY	AIR	FBI	AEC		OSI Ev		ORR Ev	
	x	x	x	x				x		x

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

25X1

Transistors Whose Development has been Completed

Group No.	Use	Maximum Ratings						Deviations
	A. Germanium Flat-surface Transistors	UCE	IC	ICO	NC+ NE	Temp. range exterior Temp.	Cut-off Frequency (Grenzfrequenz)	
4	Prelim. Stages, Oscillation Producers, Low Freq. Amplifiers	18 V	60 mA	15 mA	~ 60 mA	-50° to +70° C	620 kHz (Kcs)	> ~
5	"	18 V	60 mA	15 mA	~ 60 mA	-50° to +70° C	800 kHz	> ~
6	"	18 V	60 mA	15 mA	~ 60 mA	-50° to +70° C	1000 kHz	> ~
		UCB	UEB	UCE	UBE	Aperiodic resistance (Grenzwiderstand)	Capacity Loss (Verl. Leistung)	
7	Electronic Switches, Direct Current Converters, Vibrators	30 V	0.1 V	30 V	>0.1 V	<2.8 Ω	65 mW	= =

25X1

25X1

25X1

Group No.	Use	UCE	IC	ICO	NC+NE	Temp. Range Exterior Temp.	Cut-off Frequency (Grenzfrequenz)	Deviations
	B. Germanium Miniature Flat-Surface Transistors							
11	Prelim., Intermediate, and Final Stages	18 V	35 - 40 mA	15 mA	25-40mW	-50° to +70° C	650 kHz	> ~
12	Among Others, Special Program for Military and Interception Devices, Hearing Aids, etc.	18 V	35 - 40 mA	15 mA	25-40mW	-50° to +70° C	900 kHz	> ~
13	"	18 V	25 - 40 mA	15 mA	25 - 40 mW	-50° to +70° C	1100 kHz	> ~
14	"	10 V	35 mA	15 mA	25- 40 mW	-50° to +70° C	2200 kHz	= =
15	"	15 V	35 mA	15 mA	25- 40 mW	-50° to +70° C	900 kHz	> ~
		UCB	UCE					
21	High Frequency Stages, Portable Receivers	10 V	5 V	10 mA	~45 mW	-40° to +65° C	~ 4 MHz (Mcs)	= =
22	"	10 V	5 V	10 mA	~45 mW	-40° to +65° C	~ 7 MHz	= =
23	"	10 V	5 V	10 mA	~45 mW	-40° to +65° C	~ 12 MHz	= =

25X1

25X1

S-E-C-R-E-T

25X1

S-E-C-R-E-T

Group No.	Use	Maximum Ratings						Deviations
	C. Silicon Flat-Surface Transistors	UCB	UCE	IC	ICO	NC+NE	Temp. Range Exterior Temp.	
46		12 V	12 V	50 mA	0.4 mA	200 mW	-40° to +150° C	~ =
47		30 V	30 V	50 mA	0.5 mA	200 mW	-40° to +150° C	= =
50		75 V	75 V	50 mA	0.5 mA	200 mW	-40° to +150° C	= =
51		12 V	12 V	50 mA	0.4 mA	200 mW	-40° to +150° C	~ =
52		30 V	30 V	50 mA	0.5 mA	200 mW	-40° to +150° C	= =

25X1

25X1

S-E-C-R-E-T

25X1

S-E-C-R-E-T

Group No.	Use	Maximum Ratings							Deviations
	D. Germanium Power Transistors	UBC	UCE	IC	ICO	IEO	NC+NE	Temp.Range Exterior Temperature	
81	Electronic Switches, Direct Current (Gleichstrom) Converter -3 Amp., Power Final Stage to max. 25 W	80 - 100 V	50 - 55 V	4 - 4.5 A	2 - 2.2 mA at UCE 12 V	0.2 mA	15 W	-50° to +70° C	~ =
82	"	80 - 100 V	50 - 55 V	3 - 3.5 A	2 - 2.2 mA at UCE 12 V	0.2 mA	15 W	-50° to +70° C	~ =
83	"	40 V	25 V	4 A	2 mA at UCE 30 V	0.2 mA	15 W	-50° to +70° C	~ =
84	"	40 V	25 V	3 - 3.5 A	2 mA at UCE 30 V	0.2 mA	15 W	-50° to +70° C	~ =
85	"	20 - 25 V	12 V	4 A	2 mA at UCE 75 V	0.2 mA	15 W	-50° to +70° C	~ =
		UC	UCE	IC	IE	NC		TUMAX	
91	Special Direct Current Converter (Gleichstromwandler)	8 V	16 V	2000 mA	2000 mA	6000 mA		+ 45° C	

25X1

25X1

25X1

S-E-C-R-E-T

-5-

S-E-C-R-E-T

3. Production

The production data (Fertigungsunterlagen), as well as the machines and tools needed for production of the transistor types listed in the above tabulation are on hand. All the types which will be used in military equipment (Groups Nos 11-15) will go into series production in January 1958 on order of the Ministry of the Interior. The types listed in the tabulation, which are to be used mainly in equipment for radio broadcasting, will be produced only in part as a series, since orders for all types are not yet on hand.

4. Further Development Work

VEB Oberspreewerk has other germanium and silicon transistors and silicon power rectifiers in development for which laboratory tests have not been completed. The development of 6 to 8 types with the following technical characteristics are planned:

a. Maximum inverse peak voltage (Spitzen-Sperr-Spannung) between 80 and 800 V.

b. Maximum operational voltage at power load (kapazitiver Last): between 30 and 250 V.

c. Maximum operational voltage at Ohm load: between 60 and 500 V.

d. Maximum rectified current with added heat abduction: about 1.1 amperes.

e. Peak transmission current (Spitzendurchlassstrom) about 5 amperes.

Comment.

25X1

The technical operational ratings (Grenz-Betriebsdaten) of the transistors developed in East Germany resemble, or are strikingly similar to, those of the Duesseldorf Intermetal transistors.

25X1

1. Comment: Werk für Baudemente der Nachrichtentecknik (WBN).

25X1

Next 5 Page(s) In Document Denied